



Ten tips for improving your clinical practice during the COVID-19 pandemic

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Purpose of review

This review provides ten tips for improving clinical practice during COVID-19 as pandemic fatigue begins to complicate personal and professional lives of clinicians.

Recent findings

COVID-19 has created unique and unexpected challenges to healthcare delivery, but has also provided opportunities for re-evaluation of practice patterns to optimize high-value practices. With ongoing uncertainty, key factors to appreciate for patient and population health include the continued touchstones of empathy and compassion, the use of effective risk communication with shared clinical decision-making when appropriate, attention to resource stewardship and vulnerable populations, importance of health literacy and need for critical assessment of media and medical literature to mitigate misinformation, and the hidden costs of the pandemic on children. Although there has been some international concern for allergic reactions to the recently approved Pfizer-BioNTech COVID-19 vaccine, neither the United States Pfizer-BioNTech or Moderna COVID-19 vaccine emergency use authorizations exclude patients without a specific allergy to a vaccine component from receiving vaccination.

Summary

Practical adjustments to practice during COVID-19 are feasible and acceptable. Experience during COVID-19 reinforces the critical need for human connection while providing care and service in every encounter.

Keywords

allergy/immunology, compassion, COVID-19, empathy, risk communication, shared clinical decision-making, stewardship

INTRODUCTION

The COVID-19 pandemic has upended both medical practice and everyday life, shattering the perception of 'normal' life. We have struggled to establish a working baseline, and continue to imagine how much of our lives before COVID-19 we may regain. As 'COVID fatigue' grows, we as clinicians face challenges to maintain perspective, continue to lead by example, and remain focused on our priorities and actions. Although a second wave encompasses the world, and we see our patients, communities, friends, and families struggle to maintain perspective on the threat COVID-19 poses, it is crucial to maintain a grounded, practical, and feasible approach to actionable goals (Table 1). In many ways, the pandemic has led to opportunities to re-evaluate our healthcare priorities. Here, we discuss ten ideas to improve the care the medical profession can provide our patients, broader communities, and ourselves in what continues to be very trying circumstances.

Go beyond empathy to compassion

Empathy relates to the ability to understand and share the feelings of another. Empathy is typically more highly valued in healthcare professionals than clinical competence by patients [1]. Empathy

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KEY POINTS

- COVID-19 has challenged clinical abilities for human connection through universal masking and use of personal protective equipment; however, reaching beyond empathy to compassion can help overcome these obstacles.
- Effective communication strategies highlighted by the pandemic include acknowledging uncertainty, discussing risk in context, encouraging critical appraisal of information sources and promoting health literacy, and using shared clinical decision-making when appropriate.
- Hidden costs to children during the pandemic include educational challenges associated with remote learning, financial and food insecurity, and decreased access to universal vaccines and well-child primary care visits.

comprises one of six core principles of crisis and emergency risk communication designated by the Centers for Disease Control and Prevention (CDC) [2]. Early use of empathetic statements during clinical encounters build rapport, promote trust, reduce fear, and facilitate engagement, especially during times of uncertainty [2]. A systematic review of context effects on health outcomes, including 25 randomized controlled trials, consistently found that clinicians who adopt an empathetic manner (warm, friendly, and reassuring) are more effective than those who do not [3].

However, it is essential that we incorporate not just empathy but also compassion. Although empathy is based on a shared sense of risk, compassion is motivated by a sense of injustice, and need to improve conditions for those most vulnerable [4^a]. Many social determinants of health including

Table 1. Practical approaches to consider during individual encounters

Topic	Examples
Empathy and compassion	<p>“This is really hard for all of us’</p> <p>“What is the hardest part of the pandemic for your family?’</p> <p>“Do you have anyone to talk with when you’re feeling stressed?’</p>
Shared clinical decision-making	<p>“There are always options to consider. What part of your treatment regimen is most challenging?’</p> <p>“What is most important to you regarding your health?’</p> <p>“Are you more interested in trying new approaches to treatment or making things as simple as possible?’</p>
Acknowledge uncertainty	<p>“It can be really hard when recommendations change. As COVID-19 has evolved, our understanding has increased as well. Changing recommendations is actually a good thing – it means we’ve learned lessons from the early stages and now know better ways to lessen spread or treat patients.’</p> <p>“We have learned that things can change rapidly during COVID-19 and we have to become comfortable changing plans or adapting if things worsen suddenly.’</p>
Communicate risk	<p>“The good news about COVID-19 is that we control a lot of factors that impact transmission.’</p> <p>“Risk changes based upon many factors. It is not ‘high vs low’ but more of a sliding scale. Risk in a ‘high’ risk situation can be lowered by wearing masks, physical distancing, limiting time spent with others, and hand washing.”</p> <p>“We all take risks everyday, but also understand ways to live with that risk. Driving in a car is risky, but wearing seatbelts and observing traffic laws lower risk.’</p>
Resource stewardship	Do not routinely prescribe unproven therapies based upon low level (or lack of) evidence
Focus on vulnerable populations	Anticipate disparities associated with patients of certain race, ethnicity, or socioeconomic status. Engage social workers, allied health professionals, or community resources to assist patients.
Be a critical reader	Read published trials or case series in entirety to understand enrollment criteria, interventions, outcomes, and limitations. Do not share articles or information with others unless it has been vetted as accurate.
Health literacy	Discuss difficult concepts surrounding public health measures and epidemiology in simple terms. Use analogies to describe complicated information. Incorporate infographics, videos, or handouts into clinical encounters or discussions. Use the teachback method with individual patients to assess their understanding.
Mitigate misinformation	Ask patients what sources they use to gather information. Actively address the various sources of misinformation and how that can negatively impact medical decision making. Healthcare professionals should spend time online ‘thinking like a patient’ and use search engines to learn the types of information that appear with common questions or terms.
Hidden costs to children	<p>“How has remote learning impacted your family?’</p> <p>‘Does your family have access to groceries, food, and medication?’</p> <p>‘Have you been attending routine well-child visits, dental visits, and eye appointments?’</p> <p>‘Are your child’s recommended vaccines up to date?’</p>

structural determinants and poverty can have a significant impact on COVID-19 outcomes. Let us consider a key structural determinant – homelessness. Families who are homeless have a higher risk of viral transmission due to crowded living, lack of safe housing, and reduced access to screening facilities [5,6[■]]. United States projections estimate that up to 40% of families experiencing homelessness will contract COVID-19, and 4.3% are likely to require a hospital admission [7]. In a Boston study of 408 individuals residing in a shelter, 147 (36%) had a positive SARS-CoV-2 PCR test [8].

Arguably, the response to the COVID-19 pandemic might be enhanced if we apply a compassionate lens to public health decisions. This may enable a larger focus on critical social determinants of health and structural disparities that exacerbate disease burden and mortality risk. As recently noted, ‘COVID-19 has shown us that a healthy person and a healthy world are the same [4[■]].’

Engage in shared clinical decision-making

Shared clinical decision-making (SDM) is a joint process that incorporates patient preference in an evidence-based discussion with the clinician regarding the trade-offs and goals of diagnostic and therapeutic approaches [9[■]]. SDM has been shown to improve patient outcomes and adherence to therapy, whereas at the same time lowering healthcare cost and improving healthcare utilization – all of which are crucial outcomes in times of crisis [9[■],10–13]. A systematic review and meta-analysis of SDM in pediatrics found that SDM significantly improved knowledge ($P=0.01$) and reduced decision conflict ($P=0.003$) compared with standard of care [14]. Specific frameworks for SDM in pediatrics have been developed [15]. Engagement in SDM is crucial in addressing an often overlooked truism easily missed when evaluating medical care – ‘evidence doesn’t make decisions, people do [16].’ The CDC has stated that ‘by understanding how people take in information during a crisis state, we can better plan to communicate with them [2].’

Decreased face-to-face communication need not be a barrier to SDM as innovative models that support virtual SDM (e.g., telehealth) are evolving to meet the need [9[■]]. A sub-analysis of a stratified randomized controlled trial ($N=60,185$) showed that a telephonic virtual SDM approach (incorporating telephonic coaching with decision aids that could be mailed, emailed, or delivered online) resulted in 5.3% lower medical cost, 12.5% fewer hospital admission rates, and 9.9% fewer preference-sensitive surgeries compared with the usual care group in patients with various chronic health

conditions [13]. Despite the challenges to SDM posed by COVID-19, it is essential that SDM be used to help empower our patients to make healthcare decisions concordant with their values in difficult times.

Acknowledge uncertainty

Uncertainty has defined many aspects of both personal and professional life during this pandemic. As a consequence of uncertainty and heightened anxiety, the impact of confirmation bias has been dangerously magnified, at a time when the medical field can least afford this [2]. Acknowledging uncertainty is often uncomfortable for healthcare providers, but has been shown to increase patient confidence in the overall message [2,17,18]. It has been argued that a framework to acknowledge and discuss uncertainty is as important as searching for improved prognostic models [19].

A qualitative survey of physicians identified three sources of medical uncertainty: technical, personal, and conceptual [20]. Currently, during COVID-19 we are facing tremendous technical (data related) uncertainty as our understanding of COVID-19 is rapidly changing. Although acknowledging the science-related uncertainties that are currently pervasive is essential, it is equally important not to conflate uncertainty with inaction. Statements of uncertainty should be followed with a course of action that relates directly to the crisis or challenge being faced [2]. This mitigates both hopelessness (the feeling that nothing can be done to improve the situation) and helplessness (the feeling that an individual has no power over the situation) for our patients [2]. During the COVID-19 pandemic, healthcare professionals must clearly and concisely communicate what is both known and unknown, as well as what steps are being taken to obtain information [2]. Any information provided should be ‘simple, credible and consistent,’ [2] as noted in the basic tenets of ideal risk communication: Be first, be right, and be honest and straightforward [2].

Communicate risk, to both adults and children

Appropriately framing risk can potentially narrow the divide between perceived and actual risk, and mitigate the psychological impact of global disasters [21[■]]. Using strong frameworks to explain risk are key to promoting required actions. These include being the first to provide evidence in order to combat misinformation, ensuring the information is correct, acknowledging uncertainty, and providing action steps [2]. It is especially essential that

healthcare providers model effective risk communication to children to reduce the yet unknown impact of the pandemic on their mental health.

Conversations about COVID-19 with children should be honest, age appropriate, bi-directional, and provide children with a sense of control [22[■]]. Counseling about an ongoing sense of normalcy and routine for children – virtual communication with friends, physical play, and proper sleep hygiene – also helps children to absorb risk appropriately [22[■]]. Resources have been created by multiple international pediatric societies, including the American Academy of Pediatrics, the Canadian Pediatric Society, United Nations International Children's Fund, and the World Health Organization addressing talking to children about COVID-19 [22[■],23–25].

Practice resource stewardship

The pandemic has highlighted the need to be critical and practical about how we provide care and allocate resources. On an individual level, practicing medicine during a pandemic will quickly highlight areas of unnecessary risk for exposure to COVID-19 as well as healthcare resource limitations. At a systems level, unnecessary investigations and therapies cause harm to patients and reduce available resources where they are required. This is especially crucial to consider given a looming healthcare backlog predicted after the pandemic [26[■],27[■]].

Resource stewardship was recognized as a priority even prior to COVID-19. In a 2017 survey through the American Medical Association, 2,106 American physicians reported that a median of 20.6% of overall medical care was unnecessary, including 24.9% of investigations [28]. The Institute of Medicine has cited unnecessary medical care as accounting for about 30% of medical spending each year [29].

Recommendations to practice resource stewardship at this time include utilization of virtual care technologies, stringent evaluation of whether diagnostic tests improve outcomes or influence management decisions, and re-evaluation of the relative risks and benefits of medical and therapeutic decisions [30[■]]. Prioritizing efforts to reduce unnecessary care and go 'lean' has the opportunity not only to improve outcomes and reduce waste, but to ensure ongoing sustainability of finite healthcare resources beyond the pandemic [26[■],27[■]].

Focus on vulnerable populations

Social determinants of health such as poverty, physical environment, and race/ethnicity, are having a profound impact on COVID-19 morbidity and

mortality [6[■]]. In the United States, the COVID-19 infection rate is about three times higher in predominantly Black counties, and the mortality rate is six times higher [31[■]]. In Chicago, over 50% of COVID-19 cases and almost 70% of COVID-19 fatalities are within the Black population (who comprise about 30% of the overall Chicago population) [31[■]]. Public health measures to mitigate viral spread further contribute to disparities [6[■]].

It has been well established during the COVID-19 pandemic, as with previous epidemics, that those facing social inequalities of health are at their most vulnerable and underserved during unpredictable times [32[■]]. Although broad public policy changes are needed to mitigate the impact of adverse social and economic circumstances, such change will only be accomplished within healthcare if this impact is recognized through a focus on vulnerable populations in clinical practice and research. Moreover, there must be insistence in a 'trickle up' fashion (to empower vulnerable populations) that this becomes a public health priority.

Be a critical reader

Although the rapid translation of COVID-related medical research is essential, it is balanced by the 'false promise of rushed science [33[■]].' There are already several hundred COVID-19 trials registered across the world, and this number is increasing exponentially. The increase in preprint publication servers allows for dissemination of nonpeer-reviewed research, which can be publicized and reported prior to appropriate scrutiny of results and conclusions. Concerns have been raised about publication of small case series, or randomized controlled trials that have small samples from a single center, which 'at any other time would be hypothesis generating' now receiving significant weight and attention [33[■]].

An inclination for journals to quickly publish novel findings related to COVID-19 along with a need for rapid dissemination of information has resulted in fast-tracked publication reviews, and some notable retractions [33[■]]. A cross-sectional analysis of 1551 registered COVID-19 studies noted that the majority of studies were single center, only 29.3% of randomized controlled trials were placebo-controlled, and only 29.1% could yield level 2 evidence [34[■]]. The study authors found that the large proportion of studies that yielded only low level of evidence was 'concerning' and had significant implications, including the influence of public and professional opinion, the formulation of public health policy, and the impact on clinical and healthcare practice [34[■]]. As clinicians and researchers, it is essential to engage

in critical appraisal, keeping in mind the epistemological limitations of evidence.

In addition to appreciating the certainty of evidence, clinicians must understand the strength of medical recommendations. Importantly, many recent guidelines have adopted the approach endorsed by the Grading of Recommendations Assessment, Development and Evaluation (GRADE) working group [35]. GRADE explicitly considers the balance of benefits and harms in light of patient values and preferences, equity, acceptability, and feasibility [36[■]]. Within the context of any recommendation, it is critical to understand if recommendations are conditional or strong [36[■],37[■],38[■],39[■]]. This is a critical point, because during the COVID-19 pandemic both clinicians and patients must synthesize information to make wise decisions. For example, the Pfizer-BioNTech COVID-19 vaccine was approved in the UK on December 2, 2020 [40]; however, due to two postmarketing reports of anaphylaxis, just days later advice circulated that anyone with a history of anaphylaxis to a vaccine, medicine, or food avoid the vaccine pending further guidance [41]. Subsequent messaging evolved that individuals with a known ‘severe allergic reaction’ of any kind should avoid the vaccine [42]. Although guidance continues to evolve and such precautions were subsequently walked-back, these early recommendations highlighted challenges in understanding both evidence certainty and the balance of benefits and harms in translating evidence to recommendations.

Particularly in light of the COVID-19 pandemic and vaccination, it is important to keep risk in context. The lifetime prevalence of anaphylaxis has been estimated at 1.6–5.1% [38[■]], and 8–11% of children and adults report a food allergy [43[■],44]. Furthermore, approximately 8% of individuals report a drug allergy [38[■]]. Although there may be some overlap among individuals, these figures make it apparent that caution is needed to prevent overdiagnosis of a contraindication to a life-saving vaccine that could result in exclusion of a significant at-risk population. Balancing risks and benefits of COVID-19 vaccination is critical, and appears to have been achieved in the US emergency use authorization of the Pfizer-BioNTech and Moderna COVID-19 vaccines released in mid-December 2020 [45[■]]. Barring a history of anaphylaxis to the COVID-19 vaccine or component, these authorizations did not extend blanket contraindications to any individual with a history of allergy or anaphylaxis, but instead appropriately advised that any clinician administering the vaccine should be capable of treating an allergic reaction, as with any vaccination.

Consider the impact of health literacy

The COVID-19 pandemic has called attention to the global impact of poor health literacy [46[■]]. Prior to the pandemic, health literacy was seen as an essential tool in noncommunicable diseases – by improving access to care, adherence to medical recommendations, and interpretation of medical information [47]. Suddenly, COVID-19 has acutely highlighted the impact of health literacy on communicable diseases [46[■]]. On an individual level, poor health literacy may be associated with an unsatisfactory response to public health measures, which may influence poor understanding of both the seriousness of this condition or an individual’s own risk [46[■]]. A cross-sectional nationally representative study of more than 6,100 United States parents found that 28.7% had below-basic/basic health literacy, 68.4% were unable to enter names and birth dates correctly on insurance forms, 65.9% were unable to calculate the annual cost of a health insurance policy, and 46.4% were unable to perform one of two medication-related tasks [48]. A literacy survey of United States adults found that almost half of adults had difficulty understanding health information or acting upon it [49,50].

The impact of poor health literacy may be further compounded during the pandemic by the rapid transfer of information and the need for sudden shifts in course of action [46[■]]. On a societal level, the impact of health literacy may further the divide already imposed by adverse health determinants and amplify misinformation [51[■]]. As we start to absorb the lessons learned from this global pandemic, clinicians must insist on prioritizing and investing in increasing the health literacy of their populations as a measure that ‘could help people to reduce the risk of infection spreading and understand the reasons behind the social responsibility and disease prevention [51[■]].’

Mitigate media misinformation

Compounding pandemic uncertainty is increased public reliance on social and new media forms as a source of medical information, which also impacts risk perception [52[■],53[■]]. Online information is easily available at any hour of the day and has become increasingly tailored to an individual’s underlying beliefs, feeding an availability heuristic. Social media can exacerbate the spread of misinformation and create a false sense of expertise, where numbers of followers or those with celebrity status are confused with credibility. In addition, people often navigate toward online content that supports preconceived beliefs (and may align closely with political ideology), rejecting any discordant

information. Over a 3-week period, the Washington Post reported over 2 million tweets containing conspiracy theories about coronavirus [54]. This has led both the World Health Organization and United Nations to cite the growing ‘infodemic’ of COVID-19, noting that misinformation ‘spreads faster and more easily’ than coronavirus itself [55].

Misinformation online is rampant and can impact both the relationship with healthcare professionals as well as medical decision-making, potentially leading many toward alternative and nonevidence-based approaches [53[■]]. Based on the social amplification and attenuation of the risk framework, the volume and dramatization of information each contribute to heightened perception of risk and impact medical decision making [56].

On an individual level, it is important to anticipate patients have been exposed to misinformation and engage them regarding their search for information, as part of a SDM process [53[■]]. On a broader level, medical societies should be proactive in maintaining up-to-date information about the pandemic on their websites and their social media channels, which allows more broad outreach of public health messaging [21[■],52[■],57]. A recent study of tweets during COVID-19 concluded by noting that a more proactive social media presence is required by scientists to combat ‘the spread of fake news [58[■]].’ The use of social media allows for reaching diverse audiences, establishing bidirectional communication, and broadening transmission of public health messaging and must be considered as a medical necessity at this time [21[■],57].

Consider hidden costs to children

School closures have occurred in 138 countries and impacted the education of approximately 80% of children worldwide [59[■]]. Reduced school access compounds preexisting social and health inequalities for children living in poverty [59[■]]. School closures result in lack of exposure to school-based medical programs and school lunch programs, of which more than 30 million children in the United States depend [60]. These closures have intensified existing food insecurity; in the United States rates of food insecurity during COVID-19 have increased from 18 to 35% in some rural areas [59[■],61[■]]. In addition, closures have impacted healthcare access, as many families rely on school-based primary and preventive services [62[■]]. School closures risk further widening the socioeconomic gap in educational outcomes as children from low-income homes have less access to home-based educational materials [59[■]]. In some low-income urban areas of the United States, up to 30% of students were not participating

in online classes in the spring due to lack of online resources at home [60].

The impact of school closures on children living in poverty has been deemed a ‘social crisis in the making [59[■]].’ Although school closures may at times be essential, as clinicians we must advocate for access to education for all children, irrespective of income. COVID-19 recovery policies must ensure that no child goes hungry due to mitigation efforts, and that all children have access to healthcare and education [61[■]]. It has been stated that as clinicians, ‘we must advocate for strategic immediate and long-term response efforts to offset the deleterious impacts on children due to reduced access to vital school-based resources [62[■]].’

CONCLUSION

COVID-fatigue may be increasing as the pandemic draws on, but objective signs of better days ahead are on the horizon, providing for cautious optimism. As COVID-19 vaccines become more universally available, the need for even broader education to create and maintain a risk-mitigating culture becomes imperative. We find ourselves in an era where truth can be diluted, and indisputable facts have become inexplicably controversial and poorly accepted. However, with practical steps, we can approach these most challenging times with grace and gratitude as we work to be of service while ‘standing by the good and making it better when we can [63].’

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College of Allergy Asthma and Immunology, the European Academy of Allergy and Clinical Immunology; is an associate editor for the *Annals of Allergy, Asthma, and Immunology*; and is a member of the Joint Taskforce on Allergy Practice Parameters. D.S. is a consultant: Before Brands, DBV Technologies; Member, Board of Regents, American College of Allergy Asthma and Immunology; Social Media Editor, American Academy of Allergy Asthma and Immunology. M.S. is a member of the Joint Taskforce on Allergy Practice Parameters; has a family member who is CEO of Altrix Medical; serves on the Editorial Board of the *Journal of Food Allergy and the Annals of Allergy, Asthma, and Immunology*.

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